PolicyBrief

November 2020

Assessing ButterfLies in Europe (ABLE)

- The ABLE project has developed butterfly monitoring schemes across Europe and produced a suite of indicators to inform EU policies.

- Data has been gathered from 22 countries to produce indicators of widespread butterflies, and for grassland, woodland, urban and Natura 2000 areas.

- The Grassland Butterfly Indicator shows a loss in numbers of 25% in EU countries from 1990-2018.

- Other studies show that butterflies have been declining for over 100 years, so the ABLE trends are picking up the tail end of historic declines.

- The main drivers of decline are loss of semi-natural habitats, agricultural intensification, abandonment, chemical pollution, changing management, and fragmentation.

- Climate change is having a profound impact on butterflies and many species are expanding north, offsetting severe declines of others.

Butterflies as indicators

Policy recommendations

1. Use European Butterfly Monitoring Scheme (eBMS) data and indicators for EU policy design; to inform resource planning in Member State (MS) Prioritised Action Frameworks; to evaluate and improve policy implementation to help reverse pollinator declines.

2. Use data on butterflies to help design effective CAP Strategic Plans; and to ensure forestry, urban and regional plans include more open habitats for pollinators.

3. Use BMS data to strengthen the quality of assessments by MSs of the Conservation Status of Habitats Directive butterflies and improve management of Natura 2000 areas.

4. Link butterfly data with land use and management data, including Natura 2000 Management Plan implementation, Land Use Parcel Information System and Satellite data to help evaluate conservation effectiveness.

5. Support additional monitoring of rare and vulnerable butterflies and designate additional Protected Areas that are important for Red Listed and other threatened butterflies.

6. Invest in further capacity building and cooperation among citizen scientists, professionals, farmers and authorities to monitor the abundance of butterflies, moths and other pollinators as part of an EU Pollinator Monitoring Scheme.

7. Member States to continue or start to support existing Butterfly Monitoring Schemes and invest in new schemes in Denmark, Greece, Latvia, Romania and Slovakia, to create a complete EU network.

Background and conclusions from ABLE

The EU State of Nature Report shows biodiversity and ecosystems are in a poor state of health. Insects and their habitats are declining and under pressure. Pollination services are at risk.

The EU Court of Auditors calls for pollinator monitoring to check policy effectiveness, particularly in agriculture. Both intensification and abandonment drive losses. Butterfly monitoring should be used to inform CAP design, implementation and evaluation, including MSs' CAP Strategic Plan.

Butterflies are ideal biological indicators: they are well-documented, measurable, sensitive to environmental change, and occur widely. They are charismatic and a good proxy for the state of insect biodiversity.

Most butterflies and semi-natural grasslands, listed on the EU Habitats Directive, are in Unfavourable Conservation Status.

The EU Biodiversity Strategy 2030 commits to reversing the decline in pollinators. Investment and reductions in pressures and threats are needed to manage Protected Areas (PAs) better; designate additional PAs; and fund well designed restoration efforts.

Effective conservation and recovery of butterflies, other pollinators and their habitats is enhanced when citizen scientists come together and work with other stakeholders.

ABLE has expanded schemes and demonstrated that expert coordinators, cross-EU coordination and resources tailored to regional circumstances and translated, are crucial to effectiveness.

Future aspirations

- Butterfly Monitoring Schemes in all EU Member States.

- Improved monitoring of rare and threatened butterfly species .

- Financial support from MSs for BMS country coordinators and data analysis.

- Annual Butterfly Indicator updates to inform EU policies.

- Tools to integrate butterfly data with spatial information on climate and land management.

ABLE products have helped engage **and train** citizen scientists through new regional butterfly identification guides and by producing an easy to use **ButterflyCount App**.

Grassland management for butterflies

Grasslands are one of the most important habitats for butterflies in Europe, used by over three-quarters of species for feeding and reproduction. Grasslands are vital for other insects and provide a rich source of nectar for bees, hoverflies and other pollinators.

Most grasslands are semi-natural and have been created by thousands of years of livestock grazing and hay-making. The maintenance of these extensive pastoral systems is vital for the survival of butterflies and other pollinators.

Butterflies need their specific larval food-plants growing in the right vegetation structure, and a good variety of nectar sources.
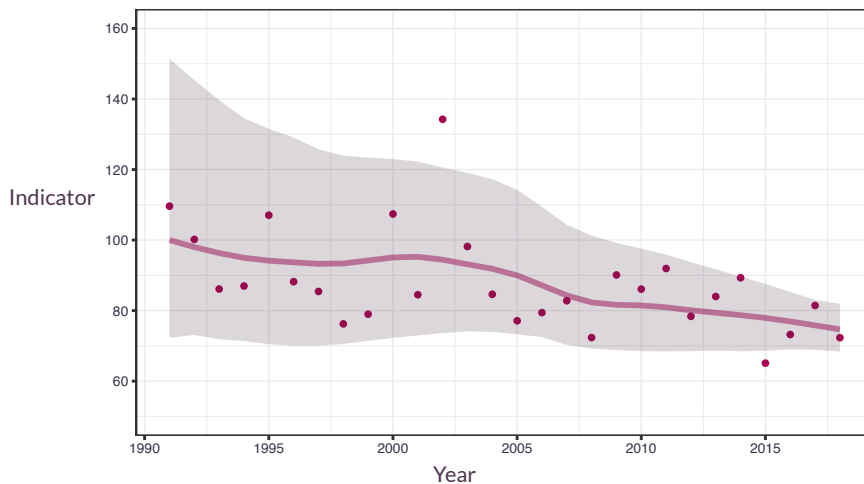
The Grassland Butterfly Indicator has been adopted as a biodiversity policy indicator by the EU (SEBI 2010) and as an EU SDG Indicator it is based on trends of 17 widespread species. For the EU 27 it shows a loss of 25% from 1990 to 2018.

Factors causing the decline are mainly intensification (high levels of grazing, ploughing, fertilization and reseeding), and abandonment (which leads to scrub invasion, especially affecting mountain areas).

Draft Indicators have been produced in ABLE for widespread butterflies and woodland, urban and Natura 2000 areas. Losses tend to be greater in the Atlantic region where intensification has been the greatest. Data for other biogeographic regions are available for only the last few years but provide a baseline to assess future change.

Grassland Butterfly Indicator EU27

The **EU Grassland Butterfly Indicator** shows a decline which reflects the loss and steady deterioration of grassland habitats. (Dots = data points; solid line = trend; shaded area = 95% confidence interval).

Photo below: Grasslands are a vital habitat for butterflies and other pollinators. Their conservation relies on continued low-intensity pastoral management.

References

European Environment Agency 2020. State of nature in the EU: Results from reporting under the nature directives 2013-2018. EEA report No.10, Luxembourg.

Maes, D. *et al*. Integrating national Red Lists for prioritising conservation actions for European butterflies. Journal Insect Conservation 23, 301–330

van Swaay C.A.M., *et al*. 2019. The EU Butterfly Indicator for Grassland species: 1990-2017. Butterfly Conservation Europe, Wageningen.

Detailed task reports of the ABLE project are available on the eBMS website (https://butterfly-monitoring.net/).

Butterfly
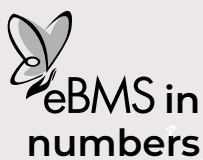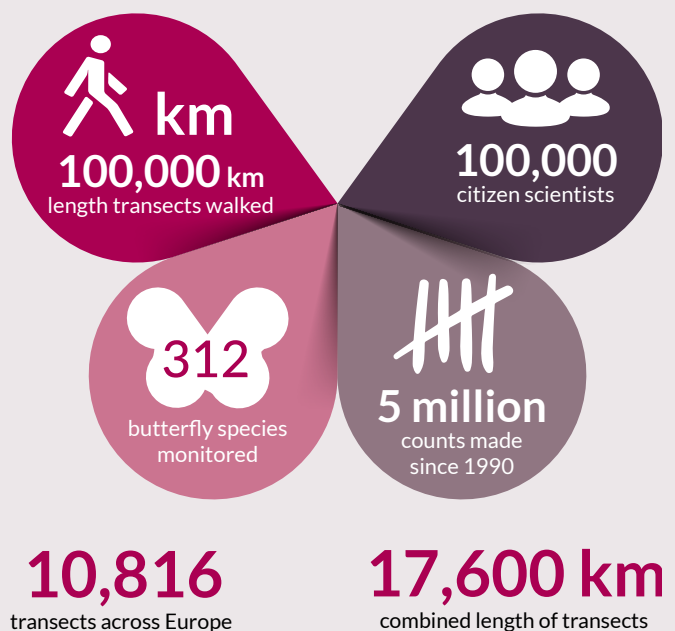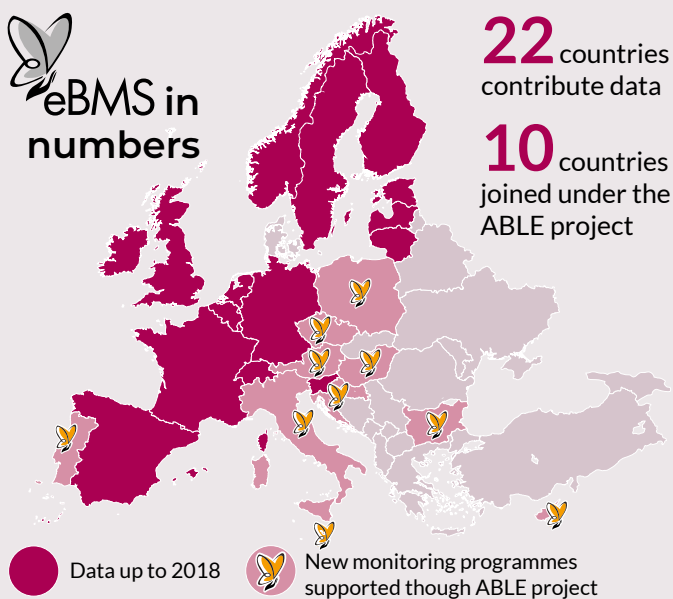## CONSERVATION EUROPE

Key eBMS features

- Standardised field methods.
- Identification by trained citizen scientists.
- Systematic counting of butterfly abundance through the year.
- Collation of data in a single database.
- Regular reporting of trends.
- Calculating indicators.
- Disseminating results.
- Feedback to volunteers.
- Providing data for research and policy development.

About the European Butterfly Monitoring Scheme (eBMS)

- Butterflies react quickly to change. They are good biological indicators, especially of other insects and pollinators.

- Europe has 482 butterfly species, breeding in a variety of habitats. The eBMS started in 2014 and gathers data annually from contributing country co-ordinators into a central database.

- ABLE helped consolidate data from existing schemes and develop new schemes to get more representative coverage. Several countries still need to develop schemes.

- Rare species are not yet sufficiently monitored, so current indicators mainly reflect widespread species.

- Species and transects monitored will increase as eBMS expands.

- The eBMS enables coordinators to place their country data in EU and Biogeographic zone contexts.

eBMS in numbers

22 countries contribute data

10 countries joined under the ABLE project

● Data up to 2018
🦋 New monitoring programmes supported though ABLE project

km
100,000 km
length transects walked

100,000
citizen scientists

312
butterfly species monitored

5 million
counts made since 1990

10,816
transects across Europe

17,600 km
combined length of transects

https://butterfly-monitoring.net/